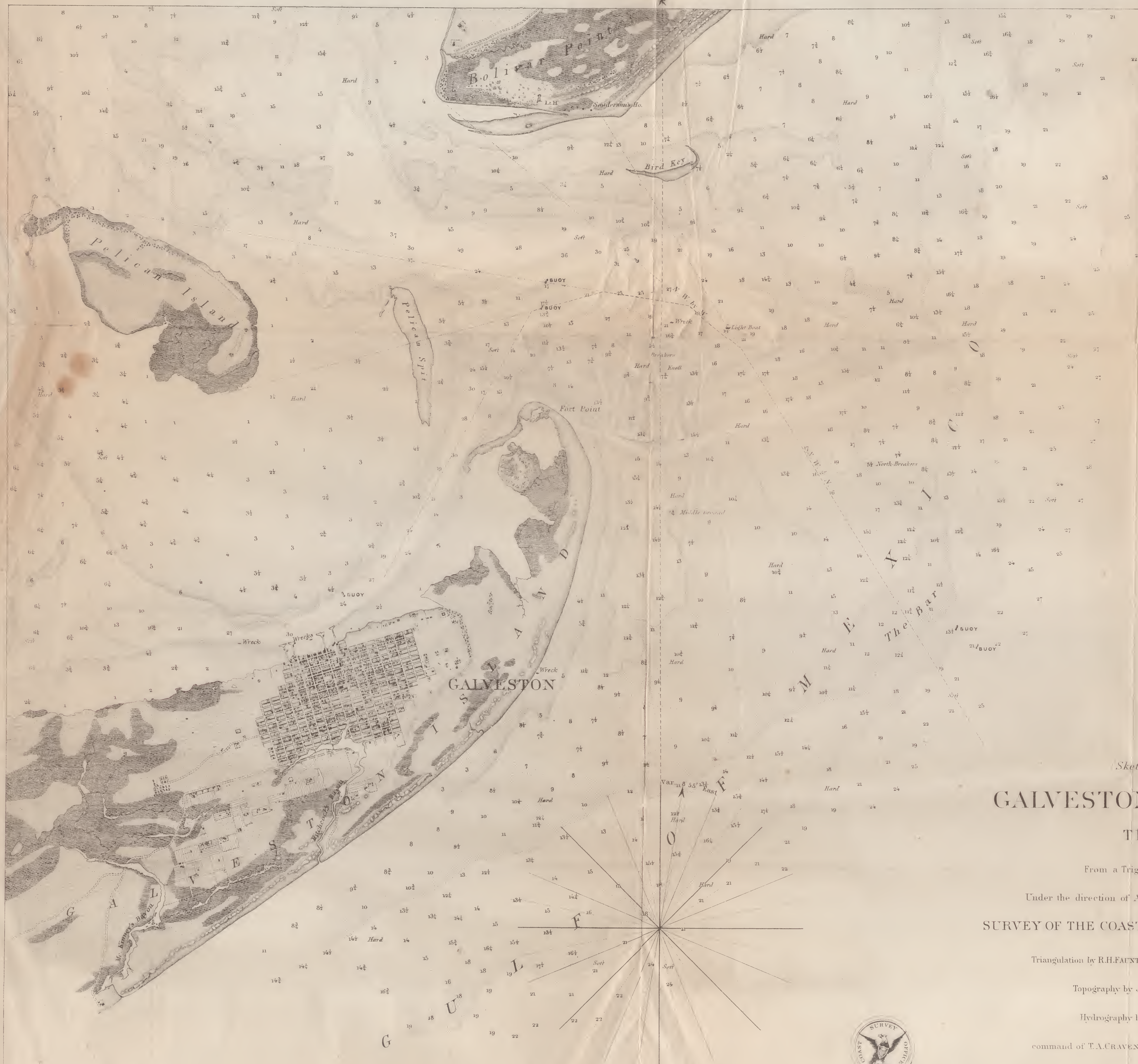
No. 39



SAILING DIRECTIONS.

When up with the Bar in from 3½ to 4 fathoms water, bring the Light Boat to bear N.W.¼N. having Sanderson's Honse on Bolivar Point just open to the left of the Light Boat, steer then for the Light Boat, crossing the bar in 12 feet water, passing Buoys on the Starboard Side which will give the best water.

When up with the Light Boat Steer N.W. by W. till the North Buoy of Channel is on with the North Point of Pelican Island; then run up for this Buoy till the South Buoy opens the South end of Pelican Island; now haul up for the South Buoy which must be passed close on the port side if the tide is flood, but if ebb give it a good berth.

Having entered the Harbor bring the red Belfry of the Market House on with a low square frame tower, the next to the Westward of the Episcopal Church for the mid Channel.

The anchorage inside the Light Boat in 4 fathoms is always safe.

The Currents are very strong, and in the Channel-ways the water shoals very suddenly.

Good Pilots are always in attendance on the Bar.

Vessels compelled to anchor outside may do so in 6 fathoms with perfect safety during all seasons.

At times, as during a very dry season and heavy Northers, the water on the Bar may be assumed at one foot less than is exhibited on the Chart. S.E. winds cause a full tide on the Bar.

NOTE.

The Courses and Bearings are Magnetic. The Soundings are expressed in feet, and show the depth at mean low water-the plane of reference. The dotted surfaces beyond low water mark represent the bottom within the respective depths of 6, 12 and 18 feet.

The characteristic soundings only, are given on the Map.

They are selected from the numerous soundings taken in the survey so as to represent the figure of the bottom.

TIDES.

The Rise and Fall of the Tides at the Entrance to Galveston Bay *is usually small. The time and height of high and low water are irregular and much influenced by the direction and force of the winds. The average rise and fall from twelve months observations 1851-52 was* 1.14 ft.

The height of high water, Spring tides, above			*plane of reference*			1.31
do.	*do.*	*Neap do.*		*do.*	*do.*	0.84
The Rise of highest tide observed				*do.*	*do.*	3.82
The Fall of lowest	*do.*		*below*	*do.*	*do.*	1.78

Remarks.

When the moon is on or near the equator, there are two small irregular tides in twenty four hours. When the moon's declination is greatest, there is generally but one tide in twenty four hours. Between these two periods there are frequently two very small unequal tides. This inequality often amounts to one foot in the height *of low water: but in the* time *of low water it is small and uncertain. In the* height *of high water, the inequality rarely exceeds four or five inches, and more generally manifests itself by the tide standing at about the same height for several hours. The inequality in the* time *of high water is very great: it usually amounts to two or three hours, and is sometimes as great as five or six. When there is but one tide in twenty four hours, the interval from low to high water is less than from high to low water. These remarks suppose that there is no disturbing action of the wind.*

Time of high water. *When the moon is North of the equator, the time of high water is nearly sixteen and a half hours after the upper transit of the moon: when the moon is on the equator, the time and height of high and low water are very irregular. After the moon crosses the equator, the time of high water follows the lower transit of the moon by about sixteen and a half hours.*

Rise and Fall. *When the time of greatest declination of the moon occurs at full or change, the rise and fall are greatest. When the moon crosses the equator in the first or last quarter, the rise and fall are least.*

(Sketch I No. 3)

GALVESTON ENTRANCE

TEXAS

From a Trigonometrical Survey

Under the direction of A.D.BACHE Superintendent of the

SURVEY OF THE COAST OF THE UNITED STATES

Triangulation by R.H.FAUNTLEROY and J.S.WILLIAMS Assistants

Topography by J.M.WAMPLER Sub-Asst.

Hydrography by the parties under the

command of T.A.CRAVEN & A.S.BALDWIN Lieuts. U.S. Navy

Published in 1853

Scale $\frac{1}{40.000}$

Verified
H.W. Benham, Capt. of Eng.rs
Asst. in charge of office

A Position of Episcopal Church
B „ „ Market House

Latitude of Galveston Court House		29° 18' 14"
Longitude of do. West from Greenwich Obsy. in arc	*data to*	94° 46' 54"
do. do. do. in time	*1852*	$6^h 19^m 08^s$
Variation of the Magnetic Needle		8° 55' East

The Triangulation was executed in	*1848*
The Topography " "	*1849 & '50*
The Hydrography " "	*1851 & '52*
The Astronomical and Magnetic Observations by R.H.Fauntleroy and J.E.Hilgard Assts. U.S.C.S.	*1848*

Red.d Dr.ng by A. Fornaro & A. Balbach

Eng.d by App. H. C. Evens & S. F. Stull

Locked
Case
G3791
.P5
1853
.U55x
Galveston
Entrance